WHAT IS CLAIMED IS:

1. A method for extracting glycoproteins from a fecal sample such that immunogenicity is maintained comprising the steps of:

(a) obtaining a fecal sample from an individual;

(b) shaking the fecal sample in a preservative solution;

(c) separating the solution containing the fecal sample to produce a fraction comprising glycoproteins;

(d) precipitating the glycoproteins from the fraction comprising glycoproteins; and

(e) dissolving the precipitated glycoproteins in buffer.

2. The method of claim 1 further comprising the steps of:

(f) centrifuging the solution from step (e) to produce a pellet and a supernatant; and

(g) collecting the supernatant containing the extracted glycoproteins.

3. The method of claim 1 wherein the fecal sample is collected in a clean vial containing preservative wherein the preservative comprises ethanol and formalin at a concentration such that bacterial growth is retarded and extraneous fecal matter is precipitated while maintaining immunogenicity of glycoproteins in the fecal sample.

4. The method of claim 3 wherein the preservative comprises 25-45% ethanol with 0.025%-0.35% formalin.

5. The method of claim 4 wherein the preservative comprises 40% ethanol with 0.25% formalin.

6. The method of claim 1 wherein the solution containing the fecal sample is separated by centrifugation.

7. The method of claim 6 wherein the centrifugation is at 1040-1500 x g for 10-15 minutes at room temperature.

8. The method of claim 1 wherein the glycoproteins are precipitated from the fraction comprising glycoproteins with 3 volumes of 100% ethanol with 0.1 ml of 20% sodium acetate.

9. The method of claim 8 wherein the precipitation proceeds for about 3 hours at room temperature.

10. The method of claim 1 wherein the precipitated glycoproteins are dissolved in phosphate buffered saline.

11. A method for screening for colon cancer comprising:

(a) obtaining purified fecal glycoproteins, said glycoproteins being obtained by a method comprising :

(i) obtaining a fecal sample from an individual;

(ii) shaking the fecal sample in a preservative solution;

(iii) separating the solution containing the fecal sample to produce a fraction comprising glycoproteins;

(iv) precipitating the glycoproteins from the fraction comprising glycoproteins; and

(v) dissolving the precipitated glycoproteins in buffer; and

(b) determining the level of COTA antigen in the purified fecal glycoproteins.

12. The method of claim 11 wherein the fecal sample is collected in a clean vial containing preservative wherein the preservative comprises ethanol and formalin at a concentration such that bacterial growth is retarded and extraneous fecal matter is precipitated while maintaining immunogenicity of glycoproteins in the fecal sample.

13. The method of claim 12 wherein the preservative comprises 25-45% ethanol with 0.025%-0.35% formalin.

14. The method of claim 13 wherein the preservative comprises 40% ethanol with 0.25% formalin.

15. The method of claim 11 wherein the solution containing the fecal sample is separated by centrifugation.

16. The method of claim 15 wherein centrifugation is at 1040-1500 x g for 10-15 minutes at room temperature.

17. The method of claim 11 wherein the glycoproteins are precipitated from the fraction comprising glycoproteins with 3 volumes of 100% ethanol with 0.1 ml of 20% sodium acetate.

18. The method of claim 17 wherein the precipitation proceeds for about 3 hours at room temperature.

19. The method of claim 11 wherein the precipitated glycoproteins are dissolved in phosphate buffered saline.

20. A method according to claim 11 wherein determination of the level of COTA antigen in the purified glycoproteins comprises the steps of:

(a) reacting an antibody for COTA antigen with the extracted glycoproteins to form a complex of the antibody and the COTA antigen;

(b) exposing the complex to a second antibody, wherein said second antibody is a detection agent; and

(c) determining the level of the detection agent and in turn determining the presence of COTA antigen in the fecal sample.

21. The method of claim 20 wherein the antibody for COTA antigen is bound to a solid surface.

22. The method of claim 20 wherein the extracted glycoproteins are bound to a solid surface.

23. The method of claim 20 wherein the antibody for COTA antigen is monoclonal antibody SP-21.

24. A kit for for screening for colon cancer comprising:

an anti-COTA capture antibody bound to a solid support;

purified human COTA antigen; and

a vial containing a preservative solution.

25. The kit of claim 24 wherein the solid support is an ELISA plate.

26. The kit of claim 24 wherein the solid support is a membrane filter.

27. The kit of claim 24 wherein the antibody for COTA antigen is monoclonal antibody SP-21.

28. The kit of claim 24 wherein the preservative comprises 25-45% ethanol with 0.025%-0.35% formalin.

29. The kit of claim 28 wherein the preservative comprises 40% ethanol with 0.25% formalin.